

REMARKS

Claims 1-84, 90, 95-96, 113-114, and new claims 143-160 are pending. Withdrawn claims 98-112 and 115-142 have been canceled.

I. The allowable subject matter is accepted in new claims 143-160.

At page 9, of the Office Action claims **29**, **31-45**, and **50-53** are stated to include allowable subject matter if rewritten in independent form. Applicants respectfully thank the Examiner for indicating the allowable subject matter. The new claims are combinations of the original claims as follows. No new mater is added.

New independent claim 143 = 14+27+28+**29**.

New dependent claim 144 = 40

New dependent claim 145 = 32

New dependent claim 146 = 33

New dependent claim 147 = 34

New dependent claim 148 = 42

New dependent claim 149 = 43

New independent claim 150 = 14 + 27+ 30 + **31**

New dependent claim 151 = 41

New dependent claim 152 = 35

New dependent claim 153 = 36

New dependent claim 154 = 37

New dependent claim 155 = 44

New dependent claim 156 = 45

New independent claim 157 = 14 + 22 + 23 + 46 +49 + **50**

New dependent claim 158 = 51

New dependent claim 159 = 52

New dependent claim 160 = 53

Therefore, the claims above are immediately allowable. No additional claim fees are due

because applicant has previously paid for and has now canceled a greater number of independent and dependent claims than have been added herein.

II. Claim Rejections Under 35 U.S.C. §102.

Claims 1-2, 9-10, 12-15, 22-23, 25-26, 46-47, 57-58, 67-68, 70-73, 80-81, 83-84 and 113-114 stand rejected under 35 U.S.C. 102(b) as being anticipated by Jackson (U.S. Patent 5793871).

Independent claims 1, 14, and 72, have been amended to incorporate limitations from claims that are not rejected at paragraph 4 of the Office action under 35 U.S.C. 102(b). For example, claim 1 = 1 +2+3, claim 14 = 14+15+16, claim 72 = 72+73+74. Therefore, the rejections based on Jackson are traversed in regard to these claims. The remaining claims above depend from these claims and are also therefore respectfully asserted to be allowable.

III. The obvious rejections in view of the combination of Jackson and Yamaguchi.

Claims 3-4, 8, 11, 16-17, 21, 24, 27-28, 30, 54-56, 61-62, 66, 69, 74-75, 79 and 82 stand rejected under 35 U.S.C. 103(a) as being obvious over Jackson as applied to claims 1-2, 10, 14-15, 23, 59-60 and 72-73 above, and further in view of Yamaguchi et al (Phase-shifting digital holography, OPTICS LETTERS cited on applicants IDS). Yamaguchi is cited for disclosing random phase encoding at page 4 of the Office Action.

However, is respectfully asserted herein that the USPTO's reasoning is incorrect at page 4 of the Office Action wherein it is stated that "However, Yamaguchi et al. teaches such a random phase (see page 1268)."

Applicants submitted the Yamaguchi reference on the IDS and are familiar with it. The following points are relevant:

Yamaguchi does not introduce random phase encoding by use of a random phase mask for example. Instead, at page 1268 it can clearly be seen that ***non-random "stepped phase differences" at specific phase locations for example at $1/2\pi$, $3/2\pi$*** are used to derive the object phase as is normally used when trying to find the unknown object phase after superimposing the reference wave and the object wave in holography to find the unknown object phase. Additionally, Yamaguchi does not deal with random phase masks for example

and has nothing to do with introducing a random phase but is instead directed to measuring the complex amplitude of the object wave by phase shifting interferometry as is well known.

Therefore, the combination of Jackson and Yamaguchi is deficient at least because Yamaguchi does not teach the random phase introduction that the USPTO claims it does. Therefore the rejections of Claims 3-4, 8, 11, 16-17, 21, 24, 27-28, 30, 54-56, 61-62, 66, 69, 74-75, 79 and 82 under 35 U.S.C. 103(a) as being obvious over Jackson as applied to claims 1-2, 10, 14-15, 23, 59-60 and 72-73 above, and further in view of Yamaguchi is respectfully traversed.

Independent Claim 1 has been amended to include limitations from claims 2 and 3 regarding "introducing a random phase" and is therefore allowable in light of the above.

Similarly, independent claim 14 has been amended to include limitations from claims 15 and 16 regarding "introducing a random phase" and is therefore allowable in light of the above.

Similarly, independent claim 59 has been amended to include limitations from claims 60 and 61 regarding "introducing a random phase" and is therefore allowable in light of the above.

Similarly, independent claim 72 has been amended to include limitations from claims 73 and 74 regarding "introducing a random phase" and is therefore allowable in light of the above.

The remaining dependent claims rejected above depend from the above independent claims are therefore also allowable.

IV. The obvious rejections in view of the combination of Jackson and Tan.

Claims 85-87 and 91-92 stand rejected under 35 U.S.C. 103(a) as being obvious over Jackson further in view of Tan et al (Secure optical storage that uses fully phase encryption).

Claims 85-87 and 91-92 have been canceled.

V. The obvious rejections in view of the combination of Jackson, Yamaguchi and Tan.

Claims 5-7, 18-20, 63-65 and 76-78 stand rejected under 35 U.S.C. 103(a) as being obvious over the modified Jackson and Yamaguchi et al system as applied to claims 1, 14, 59, and 72 above, and further in view of Tan et al (Secure optical storage that uses fully phase

encryption.) As discussed above at section III., Yamaguchi does not disclose what it is alleged to disclose. Therefore, the combination is deficient under 35 U.S.C. 103(a).

VI. The obvious rejections in view of the combinations with Jackson.

Claim 48 stands rejected under 35 U.S.C. 103(a) as being obvious over Jackson as applied to claim 47 above, and further in view of Schnars et al (Direct recording of holograms by a CCD target and numerical reconstruction). As discussed at section II above, Claim 47 is now allowable because it depends from allowable claim as 14 = 14+15+16. Claim 48 depends from claim 47 and therefore also allowable.

Likewise, Claim 49 stands rejected under 36 U.S.C. 103(a) as being obvious over Jackson as applied to claim 46 above, and further in view of Kitayoshi (US 5974178). As claims 14, and 46 are now allowable in view of Jackson, dependent claim 49 is also allowable.

Likewise, Claims 88-90 and 93-97 stand rejected under 35 U.S.C. as being obvious over Jackson alone or in combination with Tan et al as applied to claims 10, 23, 81, 87 and 92 above, and further in view of Ladino ("Data Compression Algorithms"). Claims 93-97 are canceled. Additionally, as independent claims 1, 72 are allowable in view of Jackson, then these dependant claims are allowable as well (see section II above).


VII. Conclusion

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance are requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Please telephone the undersigned for any reason. Applicants seek to cooperate with the Examiner and to expedite prosecution.

Respectfully submitted,

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